

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) ~~Method~~ A method of purifying a gas stream ~~containing from both~~ carbon dioxide and at least one ~~impurity including other impurity chosen from among~~ hydrocarbons and nitrogen oxides, ~~and optionally water, comprising said method consisting of:~~

A bringing the gas stream to be purified into contact with at least one adsorbent in aggregated form

- ~~either comprising at least~~ consisting of at least 85%, by weight of zeolite LSX having at least 90% of the exchangeable sites occupied by sodium ions, and the rest of the cations optionally being potassium and up to 5% by weight of a binder that is inert to the adsorption, or 5-25 parts by weight of a zeolitized clay binder per 100 parts of final aggregate (type A aggregate);
- ~~or comprising~~ consisting of at least 70%, by weight of a blend of at least 20% of zeolite X and of at most 80%, by weight of zeolite LSX, said blend having at least 90%, of the exchangeable sites of the said zeolites X and LSX of which are occupied by sodium ions, the rest of the cations optionally being, potassium cations, and up to 5% by weight of a binder that is inert to the adsorption or 5-25 parts by weight of a zeolitized clay binder per 100 parts of final aggregate and optionally up to 25% of one or more other zeolites (type B aggregate);

B- adsorbing at least some of the carbon dioxide, and at least some of the hydrocarbons and/or N_xO_y on the said adsorbent ~~and no other adsorbent~~;

C- desorbing the impurities adsorbed on the said adsorbent; and

D- regenerating the adsorbent.

2. (Previously Presented) A method according to Claim 11 characterized in that a PSA, TSA, TPSA or TEPsA-type process is carried out.

3-6. (Cancelled)

7. (Previously Presented) A method according to Claim 1, characterized in that the gas stream to be purified comprises air.

8. (Previously Presented) A method according to Claim 1, characterized in that the gas stream to be purified comprises syngas.

9. (Cancelled) A method according to Claim 1, the adsorbent bed comprises at least one bed comprising a blend of several adsorbents including adsorbent type B.

10. (Previously Presented) A method according to Claim 1, wherein the adsorbent comprises a binder which is a zeolitized clay in a concentration of 5-25 parts by weight.

11. (Previously Presented) A method according to Claim 10, wherein the adsorbent comprises a type A aggregate.

12. (Previously Presented) A method according to Claim 10, wherein the adsorbent comprises a type B aggregate.

13. (Previously Presented) A method according to Claim 11, wherein at least 98% of the exchangeable sites in the zeolite LSX are occupied by sodium ions.

14. (Previously Presented) A method according to Claim 12, wherein at least 98% of the exchangeable sites in zeolites X and LSX are occupied by sodium ions.

15. (Previously Presented) A method according to Claim 14, wherein the blend comprises at least 30% and at most 80% zeolite X.

16. (Currently Amended) A method according to Claim 1, wherein the number average size of the LSX crystal ~~size~~ aggregate is less than 4 microns.

17. (Previously Presented) A method according to Claim 1, wherein the binder is inert to adsorption.

18. (New) A method according to claim 1, wherein said adsorbing step B removes each of the carbon dioxide, hydrocarbons and N_xO_y to the extent that the concentration leaving the adsorbent constitutes about 1-5% of the initial concentration in the gas stream being adsorbed.

19. (New) A method according to Claim 18, characterized in that the gas stream to be purified comprises air.

20. (New) A method according to Claim 18, characterized in that the gas stream to be purified comprises syngas.

21. (New) Method of purifying a gas stream containing carbon dioxide and at least one impurity including hydrocarbons and nitrogen oxides, and optionally water, comprising

A bringing the gas stream to be purified into contact with at least one adsorbent in aggregated form

- either comprising at least 85%, by weight of zeolite LSX having at least 90% of the exchangeable sites occupied by sodium ions, and the rest of the cations optionally being potassium and up to 5% by weight of a binder that is inert to the adsorption, or 5-25 parts by weight of a zeolitized clay binder per 100 parts of final aggregate (type A aggregate);
- or comprising at least 70%, by weight of a blend of at least 20% of zeolite X and of at most 80%, by weight of zeolite LSX, said blend having at least 90%, of the exchangeable sites of the said zeolites X and LSX of which are occupied by sodium ions, the rest of the cations optionally being, potassium cations, and up to 5% by weight of a binder that is

inert to the adsorption or 5-25 parts by weight of a zeolitized clay binder per 100 parts of final aggregate and optionally up to 25% of one or more other zeolites (type B aggregate);

B- adsorbing at least some of the carbon dioxide, and at least some of the hydrocarbons and/or N_xO_y on the said adsorbent, with the provision that said method does not employ multilayer beds of different adsorbents or different adsorbents in the same bed;

C- desorbing the impurities adsorbed on the said adsorbent; and

D- regenerating the adsorbent.